National Rural Health Association Policy Paper

Improving Rural Oral Healthcare Access

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I. Introduction

As the population grows and ages in the United States, the medical and dental profession shortages are predicted to worsen, especially in the rural health setting (Hummel, 2015). There is a strong correlation between oral and systemic health. Poor oral health has been shown to be associated with diabetes, heart and lung diseases, stroke, and preterm deliveries (Jeffcoat, 2014). This disparity highlights the need for both professions to work together to complement each profession's scope of practice. This policy brief seeks to discuss the oral and systemic health connection, explores the current dental shortage, highlights the need for interprofessional education and identifies recommendations for improving rural oral health access to care.

II. Oral Systemic Connection

In 2007, major primary care medical associations galvanized the field with a new approach for delivering high-quality, patient-centered, accessible primary healthcare for children, youth, and adults. The resulting "Patient-Centered Medical Home (PCMH) Model of Care" was described by seven "Joint Principles." One defining principle, a "whole-person orientation," set the expectation that primary care assumes responsibility for providing "all of a patient's healthcare needs," and takes responsibility for appropriately arranging care with other qualified professionals (Hummel, 2015).

This whole person approach is built upon the concept that the body is a system. However, there is one part of the system that is often forgotten, and that is the mouth. The mouth was described as "a mirror to the body," in the Oral Health Report issued by the Surgeon General (DHHS, 2000). The mouth plays an important role in people's overall health and wellness. In fact, there is growing evidence that chronic oral infections like periodontal disease can lead to cerebrovascular disease, diabetes, obesity, and high obstetrical complications (Tonetti, 2017).

Periodontal disease, commonly known as gum disease is easily preventable, yet is the most common chronic disease in children (Satcher, 2017). It is defined inflammation and infection of the gums and bone that surround and support the teeth. It is caused by poor oral hygiene, leading to bacterial buildup, release of toxins, plaque breakdown, and initiation of the inflammatory cascade (Tonetti, 2017). A recent study published by the American Journal of Preventive Medicine, showed the importance of treating periodontal disease in patients with one or more of the following conditions: type 2 diabetes, cerebrovascular disease, coronary artery disease and women who were pregnant, (Jeffcoat, 2014). The results were an impressive savings in annual medical cost savings (Figure 1.), and reduced hospitalizations. Table one highlights the number

of patients needed to treat with periodontal disease to reduce the development of diabetes, stroke and heart disease (United Concordia Dental, 2014).

Figure 1. Illustrates the estimated healthcare cost savings and reduction in hospital admissions by treating periodontal disease. (United Concordia Dental, March 2014)

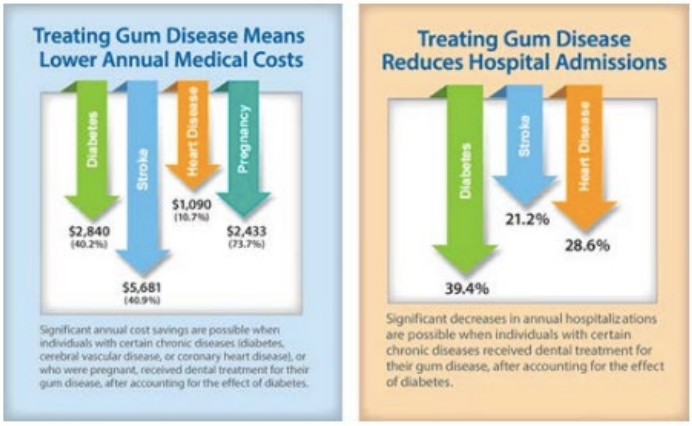

Table 1: Illustrates the number of patients with periodontal disease needed to treat (NNT) to decrease the prevalence of diabetes, stroke and heart disease. (United Concordia Dental, 2014)

Condition	NNT	P-Value
Diabetes	2.5	<0.05
Stroke	5	<0.02
Heart Disease	4	<0.01

III. Dental Health Professional Shortage:

HRSA's National and State-Level Projections of Dentists and Dental Hygienists in the U.S report, (2015) stated that "over 46 million people in the U.S. currently live in dental health professional shortage areas (DHPSA) and are lacking basic access to dental care". Of those DHPSAs, approximately 66% were designated as rural (HRSA, 2018). Disease burden is exacerbated among rural, underserved populations, such as people of color and people experiencing poverty. Demand for dental care is expected to continue to grow. Trends predict that approximately 8,600 additional dentists will be required nationally to meet care needs by 2025 (HRSA, 2015). More specifically, the limited supply of general dentists will be of great concern among rural communities in

the United States (HRSA, 2015). As a result of inadequate oral healthcare access, many rural residents forgo oral healthcare treatment and preventive services.

IV. Safety Net Programs

An effective avenue to integrate medical/dental training programs is through safety-net programs. A safety-net program is defined by the Institute of Medicine as "various organizations from major teaching hospitals and community health centers to free, rural, and public health clinics," (Chokshi, 2016). Collectively, they provide primary, specialty, inpatient, and emergency care for a disproportionate number of rural, underserved and ethnically diverse populations. Many core safety-net providers have tailored their services to meet the needs of such medically underserved populations as minority communities and non-Englishspeaking individuals, groups that are more likely to lack insurance coverage. Core safety-net providers offer these populations a combination of essential health and social services that address the effects of racism and classism, which uses a more robust model than the commercial insurance model. Safety-net providers function to "catch" those patients who would otherwise not have access to care.

V. Improving Oral Healthcare among rural communities through safety-net training programs:

In 2000, the Surgeon General described the burden of oral disease as a 'silent epidemic' among children and adults throughout the nation. The inclusion of oral care integration were a part of the former Surgeon General Richard Carmona's (2003) charge to reduce oral health disparities among people of color, people who live in more rural areas, and people experiencing poverty. Two Institute of Medicine reports (2011, 2014) affirmed the need for collaborative practice across health care disciplines and cultural competency adoption of these collaborative practices, specifically for underserved communities. Subsequently, the Department of Health and Human Services built upon this commitment to oral health by proposing the Oral Health Strategic Framework 2014-2017, which provides a roadmap for collective action at the federal, state, and local levels to improve the burden of oral disease in the US. It is from these initiatives that a movement has been shaped to address oral health disparities among people of color, people who live in more rural areas, and people experiencing poverty. The purpose of this section is to describe established evidence-based strategies to reduce oral health disparities and to close the gap on implementation efforts through safety-net training programs.

Evidence-based strategies to reduce rural oral health disparities

- Expanding oral healthcare access through workforce capacity
    - Oral Health Interprofessionalism: It will be important that we support the

collective efforts of health professionals across multidisciplinary clinical training programs including: dental, medical, nursing, and pharmacy. An unequal distribution of dental practitioners has posed a significant access gap across race and ethnicity, gender, geography, education level, and income (Gurthrie, 2009; Institute of Medicine, 2014). Innovative strategies will be key to collaborate across professions to expand preventive clinical oral health access. One of which includes, clinical training programs to adopt competencies for oral health interprofessionalism. Whereby, oral health competencies will be taught through didactic and experiential learning among multidisciplinary training programs relevant to their scope of practice.

  - Recruitment and retention: Improving the development and sustainability of incentive programs for graduating clinical professionals, early career clinical professionals, and potential preceptors for rural oral health safety-net practice will support the desired infrastructure for workforce capacity expansion. Loan repayment programs have been mostly successful in recruiting medical and dental practitioners to rural, underserved areas. In order to continue this trajectory it will be important to equip these trainees with the modernized skills, financial efficacy and cultural competencies needed to practice among safety-net communities.

  - Reimbursement policy: One of the most significant barriers to rural oral health access is dental coverage. Although coverage is required for children under Medicaid, Early and Periodic Screening, Diagnosis and Treatment provision, in some states this incentive is not comparable for adults (Vujicic, 2013). With the increased costs of medical care and inadequate reimbursement rates, many healthcare providers are less motivated to accept Medicaid patients. Not to mention the extenuating and complex process of Medicaid credentialing, which also de-incentivizes some dental practitioners and ultimately decreases the amount of those who are willing to participate. It will be important to teach current and new graduate dental practitioners about alternative strategies to build in opportunities for the safety-net within their practice.

- Strengthen public health initiatives to support the health of local residents

  - Oral health literacy and education: As we address the training, cultural competency, and improved skills for health professionals to serve rural, underserved, safety-net communities, our aim should also promote the

significance for oral health as a priority. Consistent messaging from healthcare practitioners will be critical to reducing rural oral health disparities. Contextualizing these messages for the safety-net is also key to building upon lessons learned around culturally appropriate care. Supporting the utilization of evidence-based oral health educational materials and tools for clinical professionals about oral healthcare. This can potentially increase clinician's level of efficacy in delivering preventive dental care and treatment among safety-net populations.

- Faith-based initiatives: Faith-based institutions are strong social networks that exist within rural communities. In many rural regions, faith-based networks are the most positive social fabric a community has. Many public health initiatives are leaning on faith-based networks to improve the disparity gap, especially where there are strong racial divides (Campbell, 2007). The evidence shows that faithbased health education programs and services can influence behavior on multiple levels of change (Campbell, 2007). One of the best ways this is demonstrated is through community based participatory research (CBPR) and involving the church within the design and delivery. Campbell et al says that this is essential to gain the largest benefits (Campbell, 2007). This approach allows for the nuanced qualities of a rural area to be addressed through a tailored public health program. Oral health programming has the potential to include this type of faith-based approach and the opportunity collaborate with other safety-net training program initiatives to improve the oral health of rural citizens.

- Public-private partnerships
  Promising strategies that have proven to support oral health among rural communities has been research-based advancements to reduce clinical risks of disease prevalence. Through clinical-trials and translational science, federal contributors have been able to provide exploration on public health based issues in rural communities. Through publicprivate partnerships, funding developments have provided an opportunity to demonstrate the impacts of oral health interprofessionalism and other leadership models for promoting oral health as a priority, such as Cavity Free at Three and Medical Oral Expanded Care (cavityfreeatthree.org; MORE Care, 2017).

  Improving the gap between strategy and implementation through safety-net training programs

A promising approach to closing the gap between strategy and implementation through safety-net training programs will depend on the following:\

- Enhanced evaluation strategies (quality improvement) to support the identification of the process and longitudinal change;
- The improved efficacy of dental and medical practitioners to service safety-net populations, viable financial business models, cultural and linguistic competencies, and willingness to serve
- The clinical manifestations and behavioral changes over time whereby, there is a clear demonstration of population health improvement

VI. A Call to Action

The following recommendations will be important to consider as dental health professional shortages increase, debilitating the health of rural residents.

1. Increasing awareness of rural oral health challenges among medical and dental students

    - Interprofessional oral health practice training and education: state and local medical, dental, allied health associations, and health departments should reinforce efforts to foster inter-organization relationships to develop a collaborative platform with objectives. Organizations should develop bi-directional referral pipelines for common medical and dental care treatment plans and emergencies. Expanding the scope of hygienists and utilization of dental therapist should be considered at the state level, as a part of the interprofessional rural oral health network.
    - Accrediting standards among each profession, coupled with liability and scope of practice limitations have made it difficult for medical preceptors to oversee dental students, and dental preceptors to oversee medical students. Further collaboration to break down these barriers will facilitate interprofessional education and provide opportunities for rural clinical rotations.
    - Support clinical preceptor credentialing through financial and merit incentives
    - Advocating for the importance of oral health in the context of overall systemic health within existing educational training courses
    - Understanding the coordination of care between medical and dental providers as a part of training
    - Increase the promotion of oral health literacy and education through the

utilization of evidence-based tools and resources within training programs

2. Increasing access to dental services in rural areas

- Include community groups, such as faith institutions to help promote dental health and partner with medical institutions, e.g. mobile dental van, shared transportation, community service sites.
- Support actual services that expand beyond dental screenings, cleanings, and extractions to include nutrition education for prevention, partnerships with other community groups to address social determinants of health that vastly contribute to poor dental health.
- Advocate for reimbursement policies to provide financial incentives.
- Strengthen recruitment and retention of dentist through repayment incentives. Rural health research centers and dental schools have the capacity to provide research evidence that demonstrates the greatest return on investment in rural areas, whether it be state loan repayment and forgiveness, national loan incentives, federal tax incentives, or intentional recruitment of dental school graduates from rural areas to grow a pipeline of individuals more likely to practice in rural areas. It will be important to capture this information to continue to demonstrate the need and outcomes for these incentive mechanisms.
- Advocate for the continued financial investment of NHSC-approved sites, such as FQHCs. Prioritizing NHSC sites elevates an important healthcare access point for rural communities through the placement of dentist as a part of their NHSC commitment. I. Provide scholarships for youth to intern with dental professionals and primary care clinicians for a short season during school breaks.
- Support academic institutions providing scholarships for students seeking to serve in rural areas for medical and dental professions.

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